

THE UNIVERSITY OF CHICAGO
PRESS
CHICAGO, ILL.

House Heating.

In the climate throughout the Northern and Central portion of the United States, we are confronted with a difficult problem in keeping our houses, stores and offices at a healthful, even temperature when the weather is cold. We must not have our houses too warm one day and too cold the next, or as is often the case, too hot or too cold all the time. In order to enjoy perfect health and comfort throughout the winter, we must have a means of regulating the heat supply, so that it can be kept at a steady temperature, and increased or decreased to the right extent, according to prevailing weather conditions.

With ordinary stoves and heaters this regulation of heat is not possible. You fill your stove, open the drafts and it is soon too hot. Close the drafts partially and allow your fire to die down, and if you are not standing over it all the time it becomes too cold.

There is but one heater, constructed from the observance of these conditions which eliminates all the uncertainties of other stoves and heaters, and when combined with a scientific principle known as the **Hot Blast Down-Draft**, utilizes all the burnable material in coal. It solves all the problems of house heating, and at the same time reduces the cost of fuel one-half. The following chapter explains in a few words the features of the **Wilson** and the principles on which it is constructed.

The Wilson Heater.

The **Wilson** Heater is the result of many years of careful study, and observance of the points of advantage and defect of countless heaters and stoves of all patterns and descriptions. The principal feature of the **Wilson** is the Celebrated **Hot Blast Down-Draft** which has made the **Wilson** famous. Unlike other heaters, the draft enters from the top and circulates not only throughout the coals and up the flue, but circles around and around throughout the upper portion of the heater in such a way that all the burnable gases which arise from the fuel are consumed and turned into heat. It has been ascertained that these fumes which arise from the coal constitute nearly one-half of the burnable portion of the fuel. In other heaters these fumes are carried directly from the coals out the flue and remain unconsumed as waste fuel in the form of smoke. In the **Wilson** these fumes are caught up by the **Hot Blast Down-Draft** circling around and around through the flames until they are all burned and turned into intense heat.

But not only does the Hot Blast Down-Draft save nearly one-half of your fuel bill by burning all the coal that is put into it. The Dampers are so constructed and the heater so perfectly made as to give absolute control over the fire. To start the **Wilson** the lower damper is opened and the fire started in the usual way. When once started this lower damper is closed and the **Down-Draft** damper on the upper portion of the heater is opened. By means of the **Down-Draft** damper the fire may be set at an intense heat, or at a moderate glow, to suit the condition of the weather, and the desired temperature, or by partially closing the dampers the fire may be held for 36 hours without any further attention. The **Wilson** is the original air-tight heater and is the only heater made that will do this.

If your heater is not satisfactory, do not put up with it for another winter. Buy a **Wilson** from your local dealer, and your house may be kept at an even, healthful temperature, and your fuel bill reduced nearly one-half.

We do not sell direct to consumers under any circumstances, but **Wilson** Heaters and Ranges may be had from your local dealer.



Wilson Coal Heater.

This Heater is the Top Feed style. Made of Wellsville Polished, 24 gauge steel with 16 gauge steel lining. Double Seamed with Nickel Plated Trimmings. Interchangeable Sectional Fire Pot removable through feed door, with the latest improved pattern of Shake and Dump Grate.

Price, \$12.00 to \$30.00, According to Style and Size.



**Detail of Construction and Operation of Down-Draft Feature
in Wilson Coal Heater.**

This view illustrates the action taken by the **Hot Blast Down-Draft** which has made the **Wilson** famous as a fuel saver and heat producer.

After the fire is started by means of the lower draft, it is then closed and the down-draft damper opened. The air is then sucked in from the top, is heated in passing through the down-draft flue and circulates around and passes through the fire again and again until every burnable particle of the fuel is consumed and turned into heat.

In ordinary heaters the smoke from the chimney is black and contains nearly one-half unburned fuel, which is wasted. In the **Wilson** all these particles are burned and turned into heat, so that the escaping fumes contain practically no soot, and are almost invisible to the eye.



Front Feed Style.

The above is the front feed style heater. It employs the same principle as the other heaters here illustrated, excepting that the **Hot Blast Down-Draft** enters the top of the front just above the feed door, and passes down to the fire in two tubes, located on either side of the feed door frame.

The body is made of seamless 16 gauge oak steel, the feet, base, bottom, top, box and front of the stove are all embossed cast iron, black finish. It is handsomely trimmed with heavy nickel and fitted with a bell so as to deflect the heat from the exposed fire pot directly to the floor.

Its floor heating qualities are superior to any other heater on the market, and its effectiveness combined with its fuel-economy gives the purchaser a better bargain than any other stove.

Price, \$18.00 to \$25.00, According to Style and Size.



This view shows the construction of the front feed style, with the shaker and grate removed.



Wilson Wood Heater.

The **Wilson** is the only perfectly air-tight heater on the market, and by setting the dampers the fire may be held for 36 hours.

This heater employs the same principle as the coal heater, but is built to burn wood. It will also burn chips, shavings, roots, corn cobs and waste paper.

It is made of 27 gauge planished iron, full lined, nickel trimmed and put together with the utmost care to endure long service.

Price, \$5.00 to \$15.00, According to Style and Size.

The Wilson Ranges.

The **Wilson** Steel Range with the Patent Down-Draft stands apart from all others. The several exclusive features on this range as discovered by its originator, Mr. James Wilson, has

THE CELEBRATED

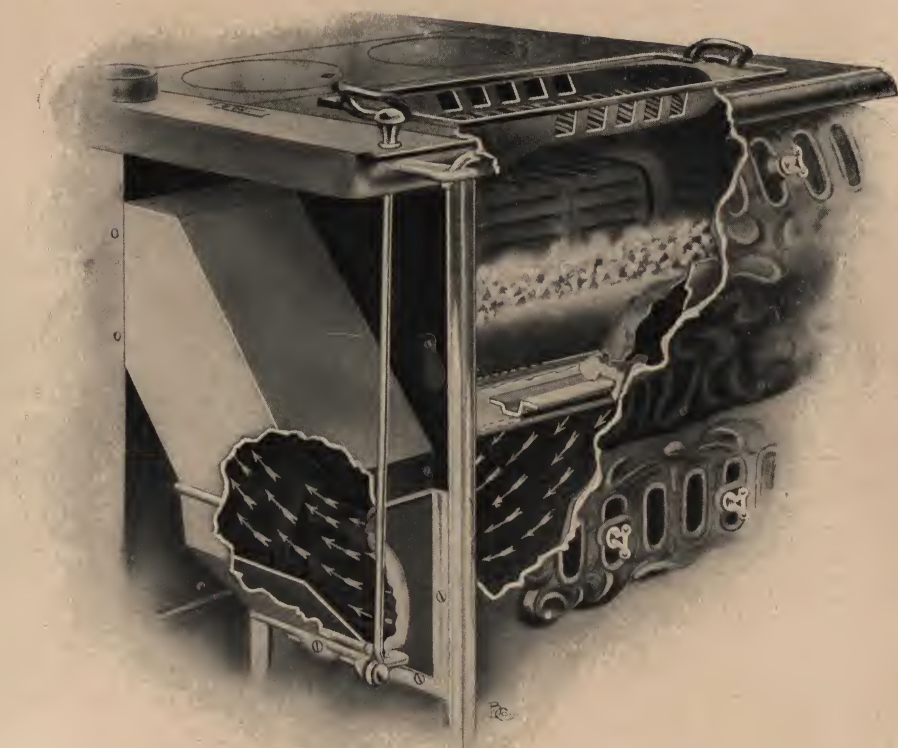
D O W N D R A F T

transformed it into a scientific and practical mechanism which gives perfect control over the fire and makes the heating both uniform and directable. Its particular feature, which alone would distinguish it from all other ranges, is the celebrated **Down-Draft**, sectional view of which is shown in the following illustration. By the use of the **Down-Draft**, the air passes into the range from above so that the fumes and gases which in other ranges arise from the flues are taken down through the fire box and out through the ash pit into the flue.

To start a fire the small damper controlling the main draft is opened; when the fire is started and meat is to be broiled this damper is closed, the lid removed and the **Down-Draft** damper opened.

AS A BROILER.

In broiling meat and fish this feature is particularly useful as the course of the draft in passing down through the fuel takes the gases and fumes with it, thus preventing them from coming in contact with and tainting the food. On ordinary ranges a charcoal broiler may often be found. This is used to broil meat which cannot be broiled on top of the fire on account of the fumes arising. This additional charcoal burner is unnecessary on the **Wilson** as the gases which make it impossible to broil on the ordinary range are carried away by the patent **Down-Draft**, thus meat may be broiled directly over the fire and still retain its natural sweet flavor. The same principle applies to toast or anything which is cooked directly over the fire.



Sectional view illustrating operation of the Patent Down-Draft as applied to **Wilson** Ranges.

**AS A
BAKER.**

As a baker it is unsurpassed. To bake, the Down-Draft damper is closed and the heat directed so as to penetrate the oven from five sides, thus giving a perfectly uniform and steady heat from every direction. The weight of the material used in the oven is of the proper gauge to insure good baking at all times, and at the same time heavy enough and properly braced to prevent it from warping or getting out of shape.

OVEN.

All ovens have heavy grey iron braces on top and bottom, and are finished on the inside with aluminum. They are supplied with a heavy steel rack and two rack supports, one 4 inches and the other $7\frac{1}{2}$ inches from the bottom. The oven doors are balanced with a steel spring placed inside the ash pit door, so that the doors may be left partially opened in order to reduce the heat of the oven as the occasion may require.

GRATES.

These Duplex Grates will burn soft coal and hard coal or wood, and can be easily removed by simply taking out two screws from the front of the range. Each range has a grate lock which prevents the grate from turning of its own accord.

LIDS.

The lids are heavily bridged and will not warp. Each range is fitted with one lid with reducing ring. The anchor plates are of heavy grey iron, and fit easily and squarely in their proper places.



Price, from \$45.00 to \$60.00.

FIRE BOX.

The fire box is made from heavy grey iron and consists of three rear sections, three front sections, one rear end section and one front end section, all of which are easily removed. They are air protected, thus insuring long life to the casting, as well as to the oven.

FIRE DOOR.

The Fire Door is fitted with a nickel plated shield which extends below and covers the hinge. It can be removed without trouble.

FLUES.

The Flues and Walls are triple with $\frac{1}{4}$ -inch asbestos lining and an 18 gauge steel lining which protects the asbestos lining and prevents the latter from disintegration.

CASTINGS.

All castings are interchangeable, and are plainly numbered. They can be had at any time by simply specifying the number of the casting.

Every detail of the **Wilson** Range has been studied and treated with the most intelligent care, and the excellent quality of the material used in its construction, together with the scientific and practical features which are found alone in the **Wilson** Range, places it head and shoulders above any other range in existence.



The **Wilson** Range, with feed, fire box, ash pit, oven, clean out, upper and lower warming closet doors and top of water tank open.



The **Wilson Range**, illustrating some features of construction, with the grate partly removed.

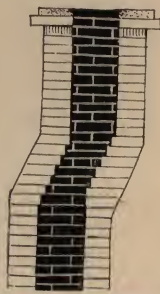
Chimney Troubles.

In nine cases out of ten where a Range or Heater fails to work satisfactorily, the trouble will be found in the flue or chimney. Observation of the following suggestions will enable the user to remedy all of these evils, except in cases of faulty construction:

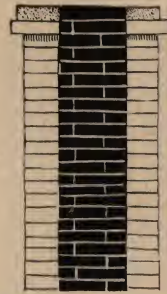
Small, irregular, or long narrow flues never work well because narrow flues do not afford sufficient volume of air, and any irregularity interferes with the draft, while a long narrow flue does not permit the free passage of air and smoke that a square one does. A good flue should be at least 9x9, or 9x13 inches.



Narrow and Rough—
Improper Construction.



Angles and Curves—
Should be Avoided.



Large and Smooth—
Proper Construction.

Many chimneys are built too low—that is, from the top of the wall to the top of the chimney is too short a distance—depriving the flue of the draft that is essential to the proper operation of a stove or range. Such chimneys should have pipe extensions.



A Low Flat Top
Chimney.



Pipe Extension with
Revolving Hood.



Flue Obstructed by Faulty
Construction and a
Loose Brick.

Many times brick and mortar are left in the flue by the brick-layer, thus clogging up the chimney and interfering with the draft. A properly constructed chimney should be as free of mortar and as smooth on the inside as it is on the outside.

The breast of a really good flue should be about 5 feet wide at the first floor; no two openings should be made in the same flue, nor should any two flues be connected.

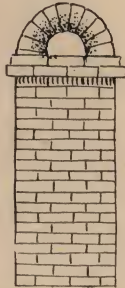
No curves or angles should be permitted in the construction of a flue; it should be straight and smooth.

Most chimneys are too low and built flat on top; they should have terra-cotta or stack extensions that would carry them above surrounding objects.

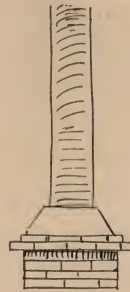
Chimneys that are surrounded by high trees or tall buildings should have pipe extensions with revolving hoods, which would prevent the wind from any direction blowing down the chimneys, causing the smoke to puff out through stove.



Old Chimney with Crevices
Between the Bricks.



Arched Cap on Chimney—
Obstructs the Draft.



Low Construction
with Pipe Extension.

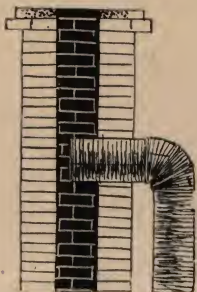
Many old chimneys are cracked by the settling of the house, and are thus rendered dangerous; in others the plastering has fallen out, permitting cold air to enter them and checking the draft—such places should be re-filled with plaster.

Some chimneys are capped with an arch; they should have a cap stack extension instead of the arch.

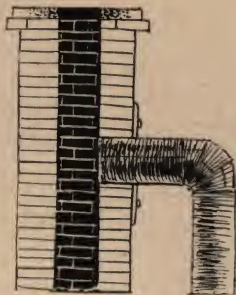
Frequently, the stove pipe is pushed into the flue too far, or openings are left around the pipe at its juncture with the flue. The pipe should not extend into the flue, as it interferes with the draft, and all cracks or openings around the pipe where it enters the flue should be carefully sealed up, to make the flue air tight.

Only one stove pipe should be connected with a flue—a separate flue should be provided for every stove in the house. Where more than one stove is connected with the same flue the draft is necessarily divided between them, and the result is that, neither stove will operate satisfactorily.

Many flues have an opening in the basement—this should be securely closed up.



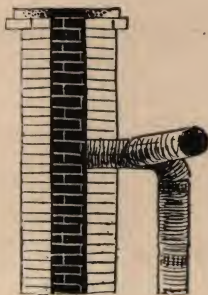
**Incorrect Position of
Stove Pipe in Flue.**



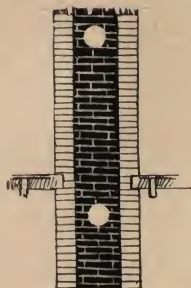
**Correct Position of Stove
Pipe with Collar.**

Flues and stove pipes should be regularly cleaned once or twice each year.

If your range or heater does not work well, it is probable that one of the above suggestions will enable you to remedy the trouble. Familiarize yourself with the drafts and dampers of your heater or range, and if your flue is all right you will have no trouble.



**One Flue Serving Two Stoves
Through One Opening—
to be Avoided.**



**Two Openings in One Flue—
Should Be Avoided.**

A VITAL POINT

to consider when buying a heater is the *draft*. Exhaustive tests prove that the *down draft* as it is developed in the celebrated



WILSON

Hot Blast Down Draft

HEATER

is the only form that insures perfect combustion at a minimum of fuel expense. Furnishes twice the heat from half the amount of coal used, because all gas generated is burned. In other heaters it escapes into the chimney. Get our

FREE BOOKLET

and learn why the Wilson is the most economical and efficient heater made. This book tells much about house-heating the average person doesn't know. 'Twill save you money.

If your dealer doesn't sell the Wilson write us and we will tell you where you can get it.

SIMMONS HARDWARE COMPANY, St. Louis and New York, U. S. A.

WILSON

Stop and figure out how much money you would save if you cut your fuel bills right in two, and still *doubled* the heating power of your coal. The result will be the strongest of all arguments why you ought to own a Wilson Hot Blast Heater. It is constructed upon entirely original principles, which are so thoroughly efficient and practical as to make the Wilson the greatest heater in the world. Chief among these is the famous

HOT BLAST DOWN DRAFT

through which all gases generated are burned, eliminating all waste. Our

Valuable Free Booklet

on House Heating will tell you more about the Wilson—and give you a lot of expert information on heating problems. Drop a postal for it to-day.

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**Simmons
Hardware Company**
St. Louis and New York, U.S.A



Heater

The
BRAND
of QUALITY.



The **KEEN KUTTER** brand name covers a complete line of Tools and Cutlery. Every article under this brand is of the Highest Quality and Fully Guaranteed. Whenever you buy a Tool or piece of Cutlery, be sure to look for **KEEN KUTTER**. When you find it, you will know that you are getting the BEST.

"The recollection of **QUALITY**
remains long after the **PRICE** is
forgotten."—E. C. SIMMONS.

PLEASE MAKE SELECTIONS.

True of Wilson Hammers and Ranges

Simmons Hardware Company,

Manufacturers and Distributors.

New York and St. Louis, U. S. A.

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